

App. Ser. No. 10/600,779
Amendment dated October 25, 2004
Reply to Office action of September 28, 2004

REMARKS/ARGUMENTS

In the September 28, 2004 Office Action, the Examiner rejected Claims 1-12 under 35 USC § 102(b) as being unpatentable over Ong et al. (U.S. Patent No. 5,736,949, "Ong"). Applicants have amended Claims 1, 3-5, 7-9, and 11-12 to further clarify the invention. Claims 2, 6, and 10 were cancelled. No new claims were added. Claims 1, 3-5, 7-9, and 11-12 are now pending of which Claims 1, 5, and 9 are independent claims. Applicants respectfully request reconsideration of the patentability of the claims of the present application in view of the amendments and the following remarks.

Amendment to the Specification

Paragraph [0030] has been amended by changing "106B" to "106." This amendment has not been made to avoid prior art, but to correct a typographical error.

Examiner Interview

Applicant thanks Examiner Wamsley for taking the time on October 22, 2004 for a telephonic interview to discuss the merits of the presently pending claims in view of the references of record. The rejections under 35 U.S.C. § 102(b) was discussed in view of the pending claims. The Ong reference was discussed in view of the pending claims. Specifically, adding language to describe direct coupling of the band gap reference to an analog input terminal, rather than just to a reference node, was discussed in view of the lack of this structural element in the Ong reference. The Examiner agreed that the proposed limitations appear to define the claims over Ong, but the Examiner indicated that further search would be needed to determine whether other prior art references disclosed similar features. The interview was helpful in providing a better understanding of the Examiner's position.

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Rejection Under 35 USC § 102(b)

Claim 1:

The Examiner rejected Claim 1 stating:

5 “For claim 1, as depicted in Figure 2a, Ong internally couples a bandgap reference circuit to the input node of an analog to digital converter, hereafter ADC.” (Office Action, Page 2, lines 13-14).

Ong fails to disclose the elements of amended Claim 1. In particular, Ong fails to disclose, “a band gap reference (BGR) circuit whose output is a direct analog input to the ADC “a
10 positive analog supply voltage (AVDD); a positive analog reference voltage (REFP); and a voltage supply operationally coupled to both the positive analog supply voltage (AVDD) and the positive analog reference voltage (REFP)” (Amended Claim 1). The added subject matter is not new matter. The added subject matter is supported in the original specification at paragraph [0032] (“Figure 3 shows a system for increasing the dynamic range of ADC 101. In Figure 3,
15 the positive voltage supply 105 is operationally coupled to both AVDD 107 and REFP 106 and BGR 103 is connected to one of ADC 101’s analog input channels (for illustration purposes shown as 102A).”).

Additionally, Ong fails to disclose, “wherein a measured BGR value is used by a CPU as a calibration constant for determining an AVDD value.” (Amended Claim 1). The added subject
20 matter is not new matter. The added subject matter is supported in the original specification in the original specification at paragraph [0034] (“BGR 103 voltage value is measured by a CPU 110 and used as a calibration constant for accurately determining the values of AVDD (REFP) and the bit weight.”) and in original Claim 2 (“wherein a BGR value is used by a CPU as a calibration constant for determining an AVDD value”).

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Applicants respectfully submit that amended Claim 1 is patentably distinguished over Ong for at least the foregoing reasons. Therefore, Applicants respectfully request allowance of amended Claim 1.

Claim 2:

5 Claim 2 has been cancelled.

Claim 3:

Ong fails to disclose the elements of amended Claim 3, which is dependent upon Claim 1. In particular, Ong fails to disclose, an ADC "wherein the measured BGR value is used by the CPU as a calibration constant for determining a REFP value, and a Bit Weight value." (Amended Claim 3). The added subject matter is not new matter. The added subject matter is supported in the original specification at lines 9-11 of paragraph [0015] ("wherein a BGR value is used by a CPU as a calibration constant for determining an AVDD value, a REFP value, and a Bit Weight value."). Thus, Claim 3 is patentably distinguished over Ong. Additionally, Claim 3 depends upon Claim 1 and is thus patentably distinguished over Ong for at least the same reasons provided above with respect to Claim 1. Therefore, Applicants respectfully request allowance of Claim 3.

Claim 4:

Claim 4 has been amended to add the word "actual" before the words "AVDD value." The added word is not new matter, but supported in the original specification at paragraph [0039] ("As can be seen, the measured BGR voltage is inversely proportional to the actual AVDD voltage . . ."). Additionally, Claim 4 depends from Claim 1 and is thus patentably distinguished over Ong for at least the same reasons provided above with respect to Claim 1. Therefore, Applicants respectfully request allowance of Claim 4.

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Claim 5:

Claim 5 has been amended by adding the same subject matter as added to Claim 1, as discussed above. Thus, Applicants respectfully submit that Claim 5 is patentably distinguished over Ong for at least the same reasons provided above with respect to Claim 1. Therefore, Applicants respectfully request allowance of Claim 5.

Claim 6:

Claim 6 has been cancelled.

Claims 7-8:

Claims 7-8 have been amended in a manner similar to the amendments discussed above regarding Claims 3-4, respectfully. Thus, Applicants respectfully submit that Claims 7-8 are patentably distinguished over Ong for at least the same reasons provided above with respect to Claims 1 and 3-4. Therefore, Applicants respectfully request allowance of Claims 7-8.

Claim 9:

Claim 9 has been amended by adding the same subject matter as added to Claims 1 and 5, as discussed above. Thus, Applicants respectfully submit that Claim 9 is patentably distinguished over Ong for at least the same reasons provided above with respect to Claims 1 and 5. Therefore, Applicants respectfully request allowance of Claim 9.

Claim 10:

Claim 10 has been cancelled.

Claims 11-12:

Claims 11-12 have been amended in a manner similar to the amendments discussed above regarding Claims 1 and 3-4, respectfully. Thus, Applicants respectfully submit that Claims 11-12 are patentably distinguished over Ong for at least the same reasons provided above

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with respect to Claims 1 and 3-4. Therefore, Applicants respectfully request allowance of
Claims 11-12.

CONCLUSION

5 For the foregoing reasons, Applicants believe Claims 1, 3-5, 7-9, and 11-12 are allow-
able, and a notice of allowance is respectfully requested. If the Examiner has any questions re-
garding the application, the Examiner is invited to call the undersigned Attorney at (949)-389-
6532.

Dated: 11/18/04


Respectfully submitted,


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I hereby certify that this correspondence is being faxed to the USPTO, fax number 703-872-9306 on

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11/18/04

Signature

November 18, 2004

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Attorney for Applicant(s)

Date of Signature

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